24. (New) The article of manufacture of claim 23 having an add-on mass of dried amorphous conversion coating from about 0.05 to about 8 g/m^2.

25. (New) The article of manufacture of claim 23 further comprising a paint coating adhered to the dried amorphous conversion coating.

26. (New) The article of manufacture of claim 23 further comprising an elastomer adhered to the dried amorphous conversion coating.

27. (New) A liquid composition of matter suitable for use as a dry-in-place phosphating composition for galvanized steel, said composition comprising water and the following dissolved components:

(a) a concentration of from about 1.0 to about 400 g/l of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid;

(b) a concentration, in g/l, of zinc cations that has a ratio to said concentration of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid, that is from about 0.003:1.0 to about 0.10:1.00; and

(c) at least one adhesion-promoting substance selected from the group consisting of:

(I) a concentration, in g/l, of polymers of monomers selected from the group consisting of acrylic and methacrylic acids and salts, amides, esters, and nitriles of acrylic and methacrylic acids, that has a ratio to said concentration of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid in g/l, that is from about 0.30:1.0 to about 3.0:1.00; and

(ii) a concentration, in g/l, of amino-phenolic polymers that has a ratio to said concentration of phosphate ions, measured as their stoichiometric equivalent as ortho-phosphoric acid in g/l, that is from about 0.3 0:1.00 to about 3.0:1.00;

REMARKS

Claims 21-22 are currently pending in the above-captioned matter. By this

amendment, claims 21-22 have been amended, and new claims 23-27 have been added. After entry of this amendment, claims 21-27 are pending, claims 21, 22, 23 and 27 being independent. Support for the amendment is found in the specification at page 1, lines 16-26; page 3, lines 21-34; page 5, lines 16-21, page 10, line 17-27 and page 13, lines 11-38. No new matter was added. Remarks made herein are based on the claims as amended hereby.

Claims 21 and 22 were rejected under 35 USC §103 as obvious in view of U.S. Patent No. 5,232,523 (Endo et al.) in view of WO 97/45568 (the '568 publication).

As the Office is aware, in order to support a rejection under 35 U.S.C. §103, the Office must establish that there is some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention. In addition, "[s]omething in the prior art as a whole must suggest the desirability, and, thus, the obviousness, of making" the modification to the art suggested by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 U.S.P.Q. 2d (BNA) 1434, 1438 (Fed. Cir.), *cert. denied,* 488 U.S. 825 (1988). That is, although the Office may suggest that the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the *desirability* of such modification. *In re Laskowski* 871 F.2d 115, 117, 10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir. 1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989). If the prior art fails to provide this necessary teaching,

suggestion, or incentive supporting the Examiner's suggested modification, the rejection based upon this suggested modification is error and must be reversed. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d (BNA) 1566 (Fed. Cir. 1990).

Applicant respectfully submits that the pending claims are neither taught nor suggested by the prior art of record. Endo teaches a phosphating bath comprising phosphate ions, zinc ions, manganese ions, an accelerator, nickel ions and colloidal particles. Endo specifically requires both nickel ions and colloidal particles to achieve its synergistic effect of improving scab resistance, see Col. 5, line 43-48. The Office admits that Endo et al. fails to teach the addition of iron ions or hydroxylamine, the addition of calcium and amino-phenolic polymers or the addition of acrylic polymer to phosphating baths and relies upon the '568 publication for these teachings. It is Applicants' position that the '568 publication fails to remedy the deficiencies of Endo et al. and, in fact, teaches against the combination. Attached hereto is US Published Application No. US 2002/0011281A1, published January 31, 2002, which is the U.S. equivalent of WO 97/45568; the '281 publication contains an additional teaching against use of nickel, see Paragraph 004. One of skill in the art would be led away from modifying Endo where the teachings regarding nickel conflict. With regard to the amended claims, the phosphate ion concentration recited is neither taught nor suggested by the references. With regard to the new claim, the combination of components of the composition and amounts of organic substances is neither taught nor suggested by the references.

Applicants' claims 23-26 are directed to articles of manufacture having an amorphous coating. Both Endo et al. and the '568 publication are directed to conversion coatings that are rinsed after application, thus resulting in a crystalline conversion coating. Neither reference teaches or suggests how to achieve Applicants' coating or the desirability of an amorphous coating.

CONCLUSION

Applicant requests reconsideration in view of the amendments and remarks contained herein, a copy of the claims showing the amendments made is attached hereto as an appendix. Applicant submits that the claims are in condition for allowance and a notice to that effect is respectfully requested. Should the Examiner have any questions regarding this paper, please contact the undersigned.

Respectfully submitted,

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Serial No. 09/769,128
Art Unit: 1742

APPENDIX

21. (Amended) A liquid composition suitable for use as a dry-in-place phosphating composition for galvanized steel, said composition comprising water and the following dissolved components:

(a) a concentration of from [1.0] 53 to 400 g/l of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid;

(b) a concentration in g/l of zinc cations that has a ratio to said concentration of phosphate ions, measured in g/l as their stoichiometric equivalent as orthophosphoric acid in the liquid composition, that is from 0.005:1.0 to 0.035:1.00;

(c) a concentration of manganese cations in g/l that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent in g/l as orthophosphoric acid, in the liquid composition that is from 0.050:1.00 to 0.15:1.00;

(d) a concentration of nickel cations in g/l that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent in g/l as orthophosphoric acid in the liquid composition, that is at least 0.020:1.00;

(e) at least one of:

(i) a source of hydroxylamine with a stoichiometric equivalent as hydroxylamine that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid, in the liquid composition, both of these concentrations being measured in g/l, that is from 0.0030:1.00 to 0.03:1.00; and

(ii) a concentration of iron cations that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid, in the liquid composition, both of these concentrations being measured in g/l, that is from 0.0007:1.00 to 0.010:1.00;

(f) a concentration of calcium cations that has a ratio to the concentration of

phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid, in the liquid composition, both of these concentrations being measured in g/l, that is from 0.030:1.00 to 0.080:1.00; and

(g) a concentration in g/l of amino-phenolic polymers that has a ratio to the phosphate ions concentration, measured in g/l as its stoichiometric equivalent of orthophosphoric acid, in the liquid composition that is from 0.0020:1.0 to 0.020:1.00,

wherein said amino-phenolic polymers have all of the following characteristics:

(i) if all of the substituents on the aromatic rings that are substituted aminomethyl moieties and all of the substituents on the oxygen atoms bonded directly to the aromatic rings were replaced by hydrogen, the resulting polymer would be a polymer of a vinyl phenol with a weight average molecular weight that is from 300 to 10,000;

(ii) the nitrogen atoms in the substituted aminomethyl substituents on aromatic rings of the polymer molecules are bonded to three distinct carbon atoms each and are not amine oxides;

(iii) at least one of the moieties bonded to each nitrogen atom in the substituted aminomethyl substituents on the aromatic rings is a hydroxyalkyl moiety with from 2 to 6 carbon atoms; and

(iv) at least one of the moieties bonded to each nitrogen atom in the substituted aminomethyl substituents on the aromatic rings is an unsubstituted alkyl moiety having not more than 3 carbon atoms.

22. (Amended) A liquid composition suitable for use as a dry-in-place phosphating composition for galvanized steel, said composition comprising water and the following dissolved components:

(a) a concentration of from [1.0] 53 to 400 g/l of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid;

(b) a concentration in g/l of zinc cations that has a ratio to said concentration of

phosphate ions, measured in g/l as their stoichiometric equivalent as orthophosphoric acid in the liquid composition, that is from 0.015:1.0 to 0.06:1.00;

(c) a concentration of manganese cations in g/l that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent in g/l as orthophosphoric acid, in the liquid composition that is from 0.050:1.00 to 0.15:1.00;

(d) a concentration of nickel cations in g/l that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent in g/l as orthophosphoric acid in the liquid composition, that is at least 0.020:1.00;

(e) at least one of:

(i) a source of hydroxylamine with a stoichiometric equivalent as hydroxylamine that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid, in the liquid composition, both of these concentrations being measured in g/l, that is from 0.0030:1.00 to 0.03:1.00; and

(ii) iron cations in a concentration that has a ratio to the concentration of phosphate ions, measured as their stoichiometric equivalent as orthophosphoric acid, in the liquid composition, both of these concentrations being measured in g/l, that is from 0.0007:1.00 to 0.010:1.00, and

(f) a concentration in g/l of film-forming acrylic polymers that has a ratio to the phosphate ions concentration, measured in g/l as its stoichiometric equivalent of orthophosphoric acid, in the liquid composition that is from 0.0020:1.0 to 0.020:1.00, wherein said acrylic polymers have all of the following characteristics:

(i) when isolated from other materials, the acrylic polymers are a solid at 30° C and normal atmospheric pressure;

(ii) the acrylic polymers can be dissolved or stably dispersed in water to form a homogeneous solution in which the acrylic polymers constitute at least 5 % of the homogeneous solution;

(iii) when a homogeneous solution of the acrylic polymers in water that

contains at least 0.10 cubic centimeters volume of the isolated acrylic polymers are dried at a temperature of 30° C in a walled container with a base area of 1.0 square centimeter and walls perpendicular to the base, there is formed in the base of said container a continuous solid article of the acrylic polymers, said continuous solid article, after being separated from the container in which it was formed by drying, having sufficient cohesion to sustain its integrity against the force of natural gravity of the Earth; and

(iv) has a T_{300} value that is from 15 to 50° C.